

# Daniel Verscharen

## List of Publications by Year in descending order

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92  
papers

2,184  
citations

257450

24  
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265206

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115  
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115  
docs citations

115  
times ranked

1275  
citing authors

#	ARTICLE	IF	CITATIONS
1	Stochastic Electron Acceleration by Temperature Anisotropy Instabilities under Solar Flare Plasma Conditions. <i>Astrophysical Journal</i> , 2022, 924, 52.	4.5	2
2	The kinetic Alfvén-like nature of turbulent fluctuations in the Earth's magnetosheath: MMS measurement of the electron Alfvén ratio. <i>Physics of Plasmas</i> , 2022, 29, 012308.	1.9	4
3	Strong Perpendicular Velocity-space Diffusion in Proton Beams Observed by Parker Solar Probe. <i>Astrophysical Journal</i> , 2022, 924, 112.	4.5	16
4	The Stability of the Electron Strahl against the Oblique Fast-magnetosonic/Whistler Instability in the Inner Heliosphere. <i>Astrophysical Journal Letters</i> , 2022, 926, L26.	8.3	8
5	Coherence of Ion Cyclotron Resonance in Damped Ion Cyclotron Waves in Space Plasmas. <i>Astrophysical Journal</i> , 2022, 928, 36.	4.5	5
6	The Kinetic Expansion of Solar-wind Electrons: Transport Theory and Predictions for the Very Inner Heliosphere. <i>Astrophysical Journal</i> , 2022, 927, 162.	4.5	5
7	CubeSat measurements of thermospheric plasma: spacecraft charging effects on a plasma analyzer. <i>CEAS Space Journal</i> , 2022, 14, 675-687.	2.3	2
8	Radial Evolution of Thermal and Suprathermal Electron Populations in the Slow Solar Wind from 0.13 to 0.5 au: Parker Solar Probe Observations. <i>Astrophysical Journal</i> , 2022, 931, 118.	4.5	15
9	Growth of Outward Propagating Fast-magnetosonic/Whistler Waves in the Inner Heliosphere Observed by Parker Solar Probe. <i>Astrophysical Journal</i> , 2022, 933, 220.	4.5	2
10	The Plasma Universe: A Coherent Science Theme for Voyage 2050. <i>Frontiers in Astronomy and Space Sciences</i> , 2021, 8, .	2.8	4
11	Three-dimensional magnetic reconnection in particle-in-cell simulations of anisotropic plasma turbulence. <i>Journal of Plasma Physics</i> , 2021, 87, .	2.1	19
12	Dependence of Solar Wind Proton Temperature on the Polarization Properties of Alfvénic Fluctuations at Ion-kinetic Scales. <i>Astrophysical Journal</i> , 2021, 912, 101.	4.5	9
13	A Quarter Century of <i>Wind</i> Spacecraft Discoveries. <i>Reviews of Geophysics</i> , 2021, 59, e2020RG000714.	23.0	52
14	Anisotropy of Magnetic Field and Velocity Fluctuations in the Solar Wind. <i>Astrophysical Journal</i> , 2021, 913, 80.	4.5	4
15	First Solar Orbiter observation of the Alfvénic slow wind and identification of its solar source. <i>Astronomy and Astrophysics</i> , 2021, 656, A21.	5.1	13
16	Flux conservation, radial scalings, Mach numbers, and critical distances in the solar wind: magnetohydrodynamics and <i>Ulysses</i> observations. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 506, 4993-5004.	4.4	17
17	MagneToRE: Mapping the 3-D Magnetic Structure of the Solar Wind Using a Large Constellation of Nanosatellites. <i>Frontiers in Astronomy and Space Sciences</i> , 2021, 8, .	2.8	13
18	Whistler instability driven by the sunward electron deficit in the solar wind. <i>Astronomy and Astrophysics</i> , 2021, 656, A31.	5.1	12

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19	Magnetic Field Reconstruction for a Realistic Multi-Point, Multi-Scale Spacecraft Observatory. <i>Frontiers in Astronomy and Space Sciences</i> , 2021, 8, .	2.8	6
20	Deriving the bulk properties of solar wind electrons observed by Solar Orbiter. <i>Astronomy and Astrophysics</i> , 2021, 656, A10.	5.1	6
21	Solar Orbiter observations of the structure of reconnection outflow layers in the solar wind. <i>Astronomy and Astrophysics</i> , 2021, 656, L8.	5.1	5
22	Exploring the Solar Wind from Its Source on the Corona into the Inner Heliosphere during the First Solar Orbiterâ€™Parker Solar Probe Quadrature. <i>Astrophysical Journal Letters</i> , 2021, 920, L14.	8.3	25
23	Magnetic reconnection as a mechanism to produce multiple thermal proton populations and beams locally in the solar wind. <i>Astronomy and Astrophysics</i> , 2021, 656, A37.	5.1	12
24	Multiscale views of an Alfvénic slow solar wind: 3D velocity distribution functions observed by the Proton-Alpha Sensor of Solar Orbiter. <i>Astronomy and Astrophysics</i> , 2021, 656, A36.	5.1	12
25	Ambipolar Electric Field and Potential in the Solar Wind Estimated from Electron Velocity Distribution Functions. <i>Astrophysical Journal</i> , 2021, 921, 83.	4.5	14
26	Design and Optimization of a High-Time-Resolution Magnetic Plasma Analyzer (MPA). <i>Applied Sciences (Switzerland)</i> , 2020, 10, 8483.	2.5	4
27	Magnetic Energy Transfer and Distribution between Protons and Electrons for Alfvénic Waves at Kinetic Scales in Wavenumber Space. <i>Astrophysical Journal</i> , 2020, 896, 47.	4.5	8
28	Determining the Bulk Parameters of Plasma Electrons from Pitch-Angle Distribution Measurements. <i>Entropy</i> , 2020, 22, 103.	2.2	12
29	Dependence of kinetic plasma waves on ion-to-electron mass ratio and light-to-Alfvén speed ratio. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020, 494, 2905-2911.	4.4	5
30	Coordination of the in situ payload of Solar Orbiter. <i>Astronomy and Astrophysics</i> , 2020, 642, A5.	5.1	17
31	The Solar Orbiter Solar Wind Analyser (SWA) suite. <i>Astronomy and Astrophysics</i> , 2020, 642, A16.	5.1	141
32	Statistics of solar wind electron breakpoint energies using machine learning techniques. <i>Astronomy and Astrophysics</i> , 2020, 639, A46.	5.1	8
33	The Solar Orbiter Science Activity Plan. <i>Astronomy and Astrophysics</i> , 2020, 642, A3.	5.1	67
34	Possible coexistence of kinetic Alfvén and ion Bernstein modes in sub-ion scale compressive turbulence in the solar wind. <i>Physical Review Research</i> , 2020, 2, .	3.6	9
35	Using Dimensionality Reduction and Clustering Techniques to Classify Space Plasma Regimes. <i>Frontiers in Astronomy and Space Sciences</i> , 2020, 7, .	2.8	7
36	Spectra of Diffusion, Dispersion, and Dissipation for Kinetic Alfvénic and Compressive Turbulence: Comparison between Kinetic Theory and Measurements from MMS. <i>Astrophysical Journal</i> , 2020, 898, 43.	4.5	36

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37	Polytropic Behavior of Solar Wind Protons Observed by Parker Solar Probe. <i>Astrophysical Journal</i> , 2020, 901, 26.	4.5	21
38	A Quasi-linear Diffusion Model for Resonant Wave-Particle Instability in Homogeneous Plasma. <i>Astrophysical Journal</i> , 2020, 902, 128.	4.5	20
39	Evolution of the Earth's Magnetosheath Turbulence: A Statistical Study Based on MMS Observations. <i>Astrophysical Journal Letters</i> , 2020, 898, L43.	8.3	22
40	Wave Composition, Propagation, and Polarization of Magnetohydrodynamic Turbulence within 0.3 au as Observed by Parker Solar Probe. <i>Astrophysical Journal Letters</i> , 2020, 901, L3.	8.3	21
41	Energy Conversion between Ions and Electrons through Ion Cyclotron Waves and Embedded Ion-scale Rotational Discontinuity in Collisionless Space Plasmas. <i>Astrophysical Journal Letters</i> , 2020, 904, L16.	8.3	4
42	Stochastic Ion Acceleration by the Ion-cyclotron Instability in a Growing Magnetic Field. <i>Astrophysical Journal</i> , 2019, 880, 100.	4.5	7
43	Direct Measurement of the Dissipation Rate Spectrum around Ion Kinetic Scales in Space Plasma Turbulence. <i>Astrophysical Journal</i> , 2019, 880, 121.	4.5	38
44	Parallel-propagating Fluctuations at Proton-kinetic Scales in the Solar Wind Are Dominated By Kinetic Instabilities. <i>Astrophysical Journal Letters</i> , 2019, 884, L53.	8.3	38
45	The Fluid-like and Kinetic Behavior of Kinetic Alfvén Turbulence in Space Plasma. <i>Astrophysical Journal</i> , 2019, 870, 106.	4.5	18
46	Composition of Wave Modes in Magnetosheath Turbulence from Sub-ion to Sub-electron Scales. <i>Astrophysical Journal</i> , 2019, 878, 48.	4.5	20
47	Self-induced Scattering of Strahl Electrons in the Solar Wind. <i>Astrophysical Journal</i> , 2019, 886, 136.	4.5	54
48	The multi-scale nature of the solar wind. <i>Living Reviews in Solar Physics</i> , 2019, 16, 5.	22.0	226
49	A step closer to the Sun's secrets. <i>Nature</i> , 2019, 576, 219-220.	27.8	9
50	The Impact of Turbulent Solar Wind Fluctuations on Solar Orbiter Plasma Proton Measurements. <i>Astrophysical Journal</i> , 2019, 886, 101.	4.5	18
51	Scale-dependent Polarization of Solar Wind Velocity Fluctuations at the Inertial and Kinetic Scales. <i>Astrophysical Journal</i> , 2019, 870, 40.	4.5	18
52	HolmMHD: A Versatile Magnetohydrodynamics Code. <i>Research Notes of the AAS</i> , 2019, 3, 96.	0.7	0
53	PIC Simulations of Velocity-space Instabilities in a Decreasing Magnetic Field: Viscosity and Thermal Conduction. <i>Astrophysical Journal</i> , 2018, 854, 132.	4.5	15
54	Stochastic proton heating by kinetic-Alfvén-wave turbulence in moderately high- plasmas. <i>Journal of Plasma Physics</i> , 2018, 84, .	2.1	25

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55	Angular Independence of Break Position for Magnetic Power Spectral Density in Solar Wind Turbulence. <i>Astrophysical Journal</i> , 2018, 865, 89.	4.5	19
56	Determining the Kappa Distributions of Space Plasmas from Observations in a Limited Energy Range. <i>Astrophysical Journal</i> , 2018, 864, 3.	4.5	32
57	The Role of Proton Cyclotron Resonance as a Dissipation Mechanism in Solar Wind Turbulence: A Statistical Study at Ion-kinetic Scales. <i>Astrophysical Journal</i> , 2018, 856, 49.	4.5	68
58	ALPS: the Arbitrary Linear Plasma Solver. <i>Journal of Plasma Physics</i> , 2018, 84, .	2.1	19
59	NHDS: The New Hampshire Dispersion Relation Solver. <i>Research Notes of the AAS</i> , 2018, 2, 13.	0.7	41
60	On Kinetic Slow Modes, Fluid Slow Modes, and Pressure-balanced Structures in the Solar Wind. <i>Astrophysical Journal</i> , 2017, 840, 106.	4.5	53
61	Electrons under the dominant action of shock-electric fields. <i>Astronomy and Astrophysics</i> , 2016, 587, L1.	5.1	12
62	COLLISIONLESS ISOTROPIZATION OF THE SOLAR-WIND PROTONS BY COMPRESSIVE FLUCTUATIONS AND PLASMA INSTABILITIES. <i>Astrophysical Journal</i> , 2016, 831, 128.	4.5	53
63	PIC SIMULATIONS OF THE EFFECT OF VELOCITY SPACE INSTABILITIES ON ELECTRON VISCOSITY AND THERMAL CONDUCTION. <i>Astrophysical Journal</i> , 2016, 824, 123.	4.5	42
64	ON THE CONSERVATION OF CROSS HELICITY AND WAVE ACTION IN SOLAR-WIND MODELS WITH NON-WKB ALFVÉN WAVE REFLECTION. <i>Astrophysical Journal</i> , 2015, 811, 50.	4.5	6
65	The electron distribution function downstream of the solar-wind termination shock: Where are the hot electrons?. <i>Astronomy and Astrophysics</i> , 2015, 579, A18.	5.1	29
66	EFFECTS OF ELECTRON DRIFTS ON THE COLLISIONLESS DAMPING OF KINETIC ALFVÉN WAVES IN THE SOLAR WIND. <i>Astrophysical Journal Letters</i> , 2015, 804, L36.	8.3	10
67	PARTICLE-IN-CELL SIMULATIONS OF CONTINUOUSLY DRIVEN MIRROR AND ION CYCLOTRON INSTABILITIES IN HIGH BETA ASTROPHYSICAL AND HELIOSPHERIC PLASMAS. <i>Astrophysical Journal</i> , 2015, 800, 27.	4.5	76
68	A MODIFIED VERSION OF TAYLOR'S HYPOTHESIS FOR SOLAR PROBE PLUS OBSERVATIONS. <i>Astrophysical Journal Letters</i> , 2015, 801, L18.	8.3	25
69	DECELERATION OF ALPHA PARTICLES IN THE SOLAR WIND BY INSTABILITIES AND THE ROTATIONAL FORCE: IMPLICATIONS FOR HEATING, AZIMUTHAL FLOW, AND THE PARKER SPIRAL MAGNETIC FIELD. <i>Astrophysical Journal</i> , 2015, 806, 157.	4.5	24
70	Traveling solar-wind bulk-velocity fluctuations and their effects on electron heating in the heliosphere. <i>Astronomy and Astrophysics</i> , 2014, 571, A78.	5.1	13
71	MAGNETOHYDRODYNAMIC SLOW MODE WITH DRIFTING He <sup>++</sup> : IMPLICATIONS FOR CORONAL SEISMOLOGY AND THE SOLAR WIND. <i>Astrophysical Journal</i> , 2014, 788, 35.	4.5	6
72	STOCHASTIC HEATING, DIFFERENTIAL FLOW, AND THE ALPHA-TO-PROTON TEMPERATURE RATIO IN THE SOLAR WIND. <i>Astrophysical Journal</i> , 2013, 776, 45.	4.5	50

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73	THE DISPERSION RELATIONS AND INSTABILITY THRESHOLDS OF OBLIQUE PLASMA MODES IN THE PRESENCE OF AN ION BEAM. <i>Astrophysical Journal</i> , 2013, 764, 88.	4.5	48
74	Spectral evolution of two-dimensional kinetic plasma turbulence in the wavenumber-frequency domain. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	22
75	A PARALLEL-PROPAGATING ALFVÉN ION-BEAM INSTABILITY IN THE HIGH-BETA SOLAR WIND. <i>Astrophysical Journal</i> , 2013, 773, 8.	4.5	46
76	INSTABILITIES DRIVEN BY THE DRIFT AND TEMPERATURE ANISOTROPY OF ALPHA PARTICLES IN THE SOLAR WIND. <i>Astrophysical Journal</i> , 2013, 773, 163.	4.5	59
77	LIMITS ON ALPHA PARTICLE TEMPERATURE ANISOTROPY AND DIFFERENTIAL FLOW FROM KINETIC INSTABILITIES: SOLAR WIND OBSERVATIONS. <i>Astrophysical Journal Letters</i> , 2013, 777, L3.	8.3	50
78	Kinetic cascade beyond magnetohydrodynamics of solar wind turbulence in two-dimensional hybrid simulations. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	72
79	Parametric decay of oblique Alfvén waves in two-dimensional hybrid simulations. <i>Physical Review E</i> , 2012, 86, 027401.	2.1	21
80	On nonlinear Alfvén-cyclotron waves in multi-species plasma. <i>Journal of Plasma Physics</i> , 2011, 77, 385-403.	2.1	14
81	Compressive high-frequency waves riding on an Alfvén/ion-cyclotron wave in a multi-fluid plasma. <i>Journal of Plasma Physics</i> , 2011, 77, 693-707.	2.1	9
82	Apparent temperature anisotropies due to wave activity in the solar wind. <i>Annales Geophysicae</i> , 2011, 29, 909-917.	1.6	38
83	Injection to the pick-up ion regime from high energies and induced ion power-laws. <i>Astronomy and Astrophysics</i> , 2009, 505, 329-337.	5.1	9
84	Spectral intensities of Anomalous Cosmic Rays derived from the injection rate at the solar wind termination shock. <i>Astrophysics and Space Sciences Transactions</i> , 2009, 5, 21-30.	1.0	2
85	Solar wind proton reflection and injection to the ACR regime at the parallel termination shock. <i>Astrophysics and Space Sciences Transactions</i> , 2009, 5, 15-19.	1.0	0
86	A kinetic description of the dissipative quasi-parallel solar wind termination shock. <i>Astronomy and Astrophysics</i> , 2008, 487, 723-729.	5.1	15
87	Ion reflections from the parallel MHD termination shock and a possible injection mechanism into the Fermi-1 acceleration. <i>Astronomy and Astrophysics</i> , 2008, 487, L21-L24.	5.1	8
88	Self-initialised Fermi-1 acceleration by pitch-angle re-scattering of solar wind ions reflected from the parallel termination shock. <i>Astrophysics and Space Sciences Transactions</i> , 2008, 4, 51-58.	1.0	3
89	The angular-momentum flux in the solar wind observed during Solar Orbiter's first orbit. <i>Astronomy and Astrophysics</i> , 0, , .	5.1	2
90	High-cadence measurements of electron pitch-angle distributions from Solar Orbiter SWA-EAS burst mode operations. <i>Astronomy and Astrophysics</i> , 0, , .	5.1	5

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91	A Case for Electron-Astrophysics. <i>Experimental Astronomy</i> , 0, , 1.	3.7	11
92	Direct Evidence of Magnetic Reconnection Onset via the Tearing Instability. <i>Frontiers in Astronomy and Space Sciences</i> , 0, 9, .	2.8	2